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**PATENT**  
01393-P0035A GSW/SPM

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants	Sami Yazdi, et al.
Serial No. Pending	June 5, 2000
Title of Application:	Hand-Held Electronic Tester For Telecommunications Networks

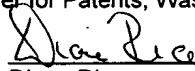
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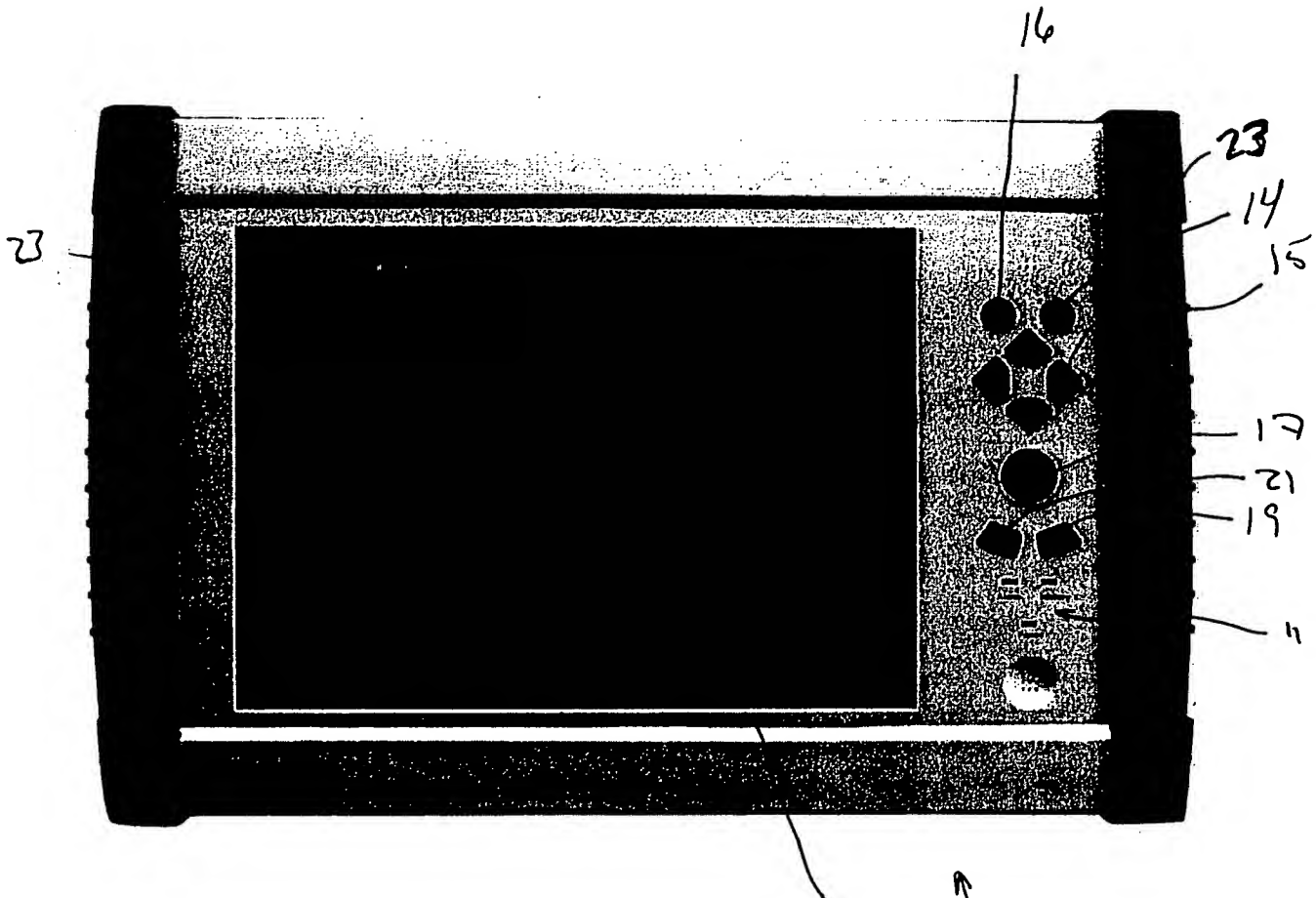
**Cover Sheet For Nineteen Sheets Of Drawings**

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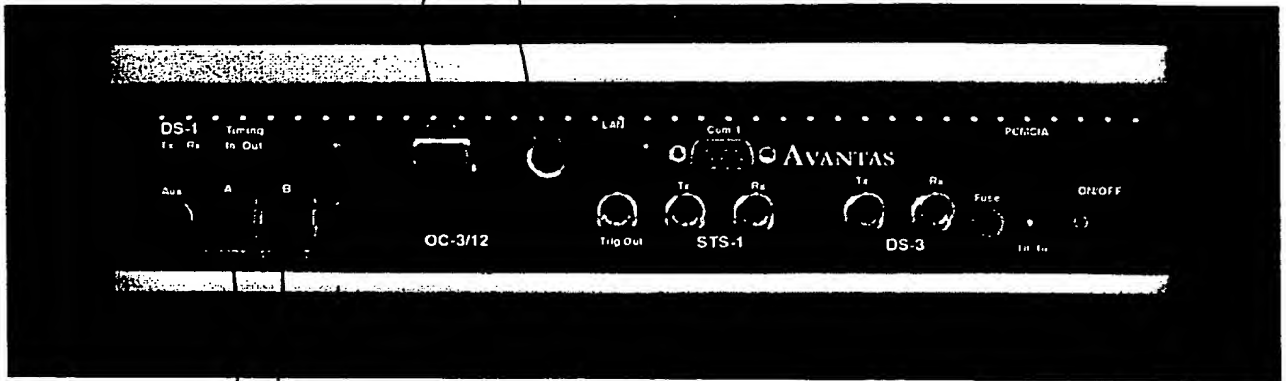
Preferred Embodiment (Front View)

Fig. 1

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SV4A

PS/2

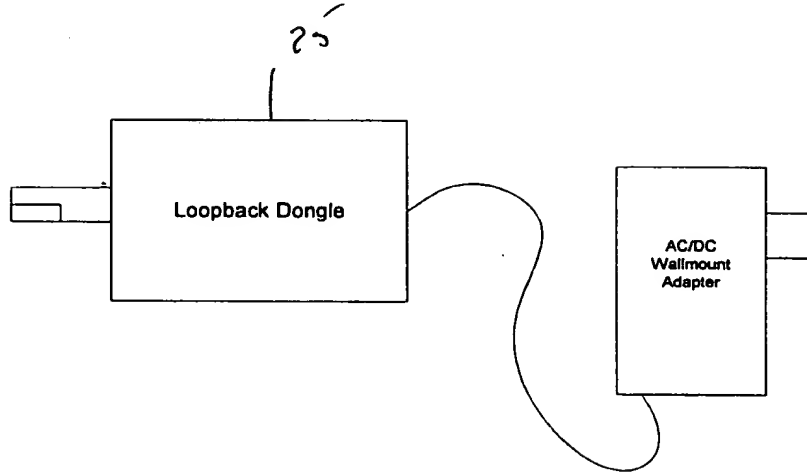


118 | 120

10/100/1000 Base TX

Connector Panel

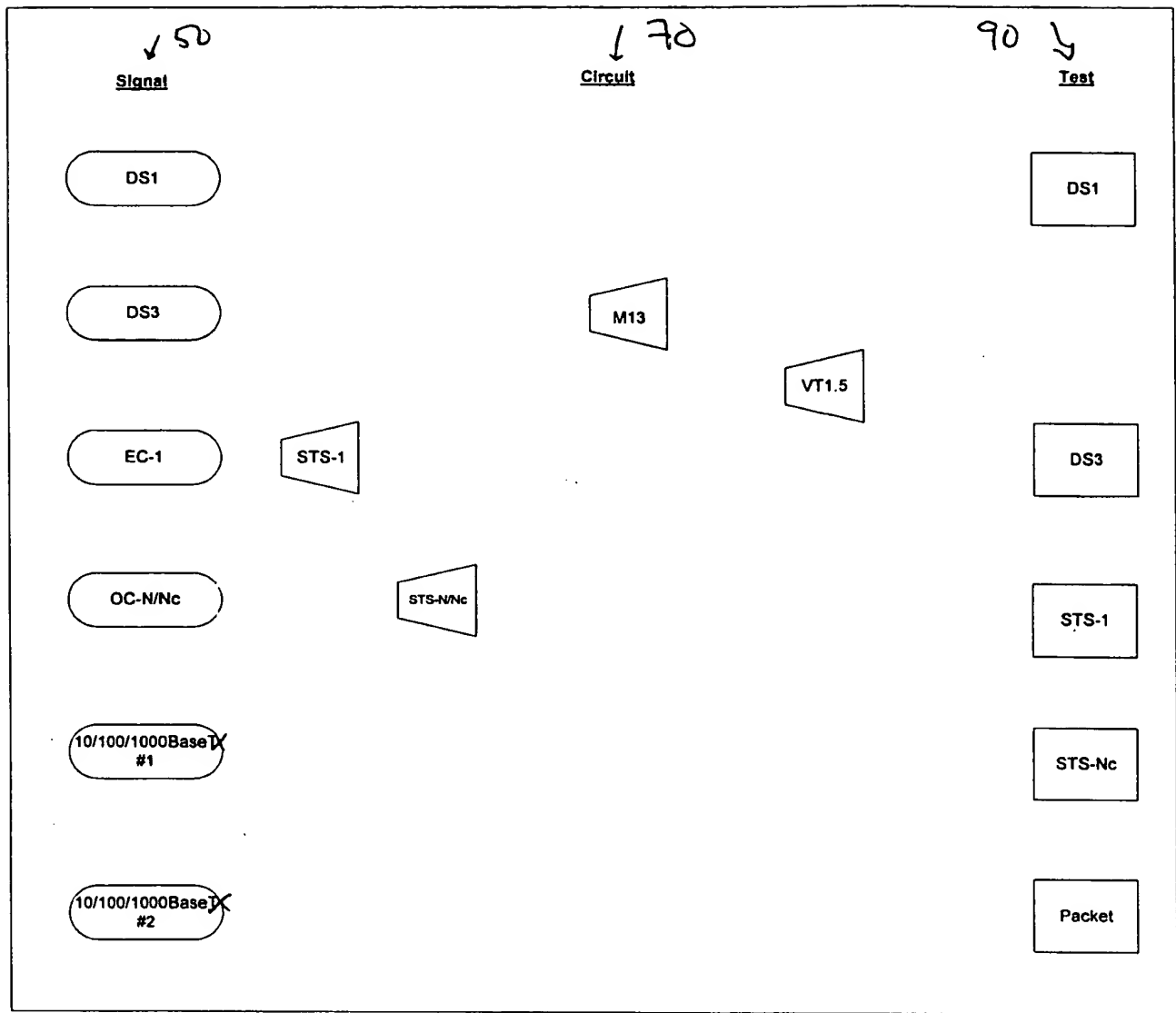
Fig - 2



Ethernet Loopback Dongle

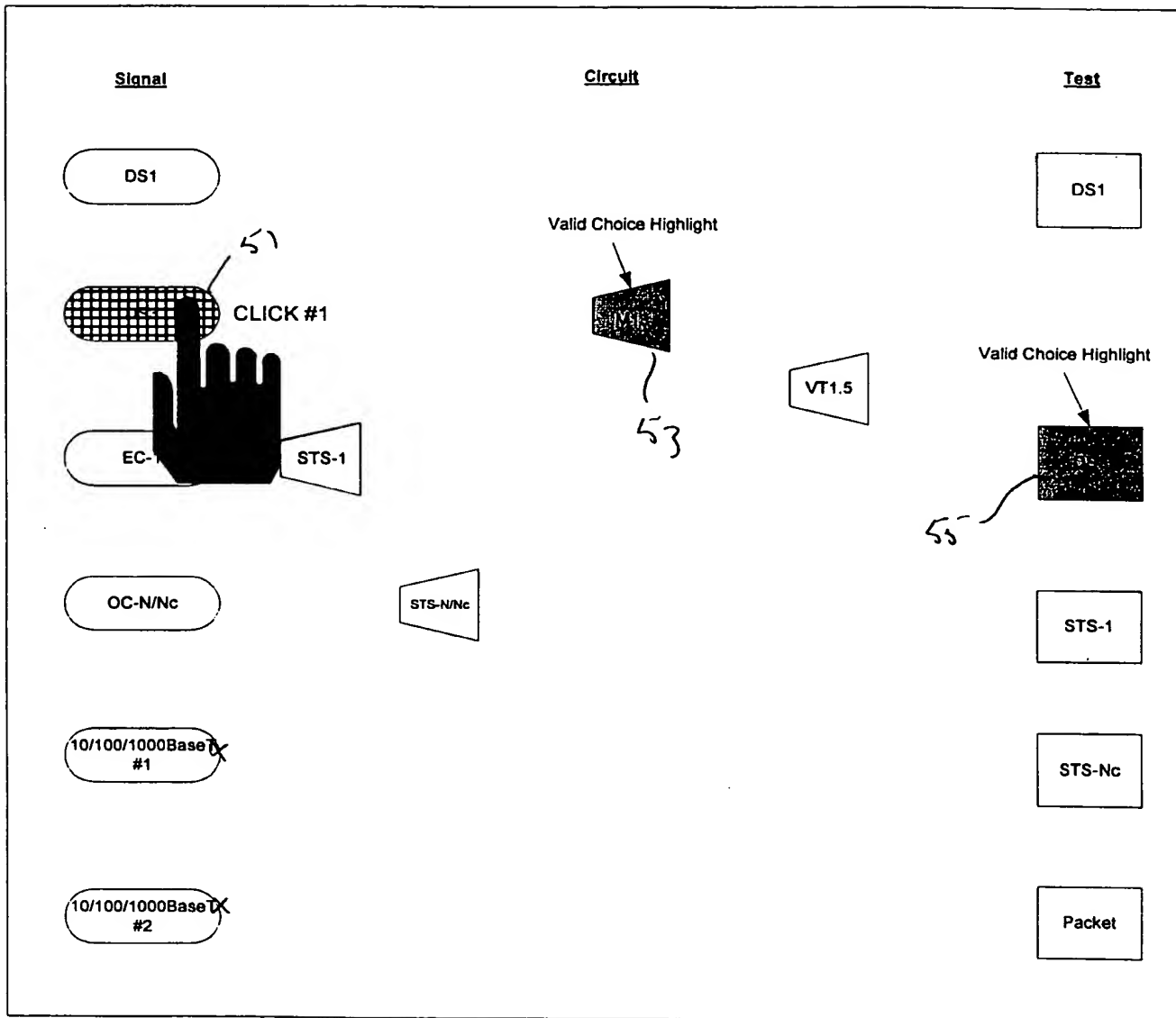
Fig - 3

005050-5252500



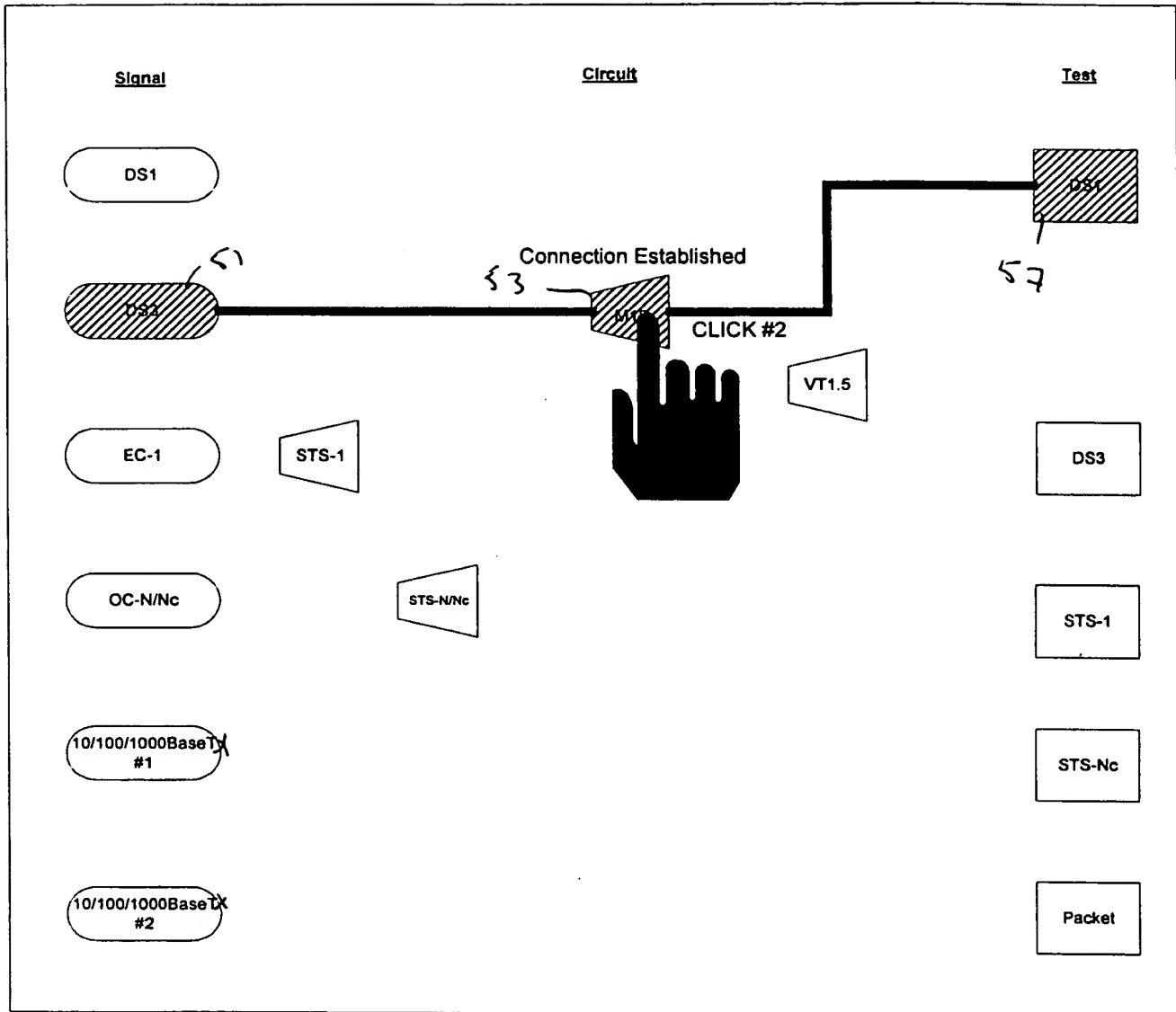
Graphical User Interface

Fig. 4



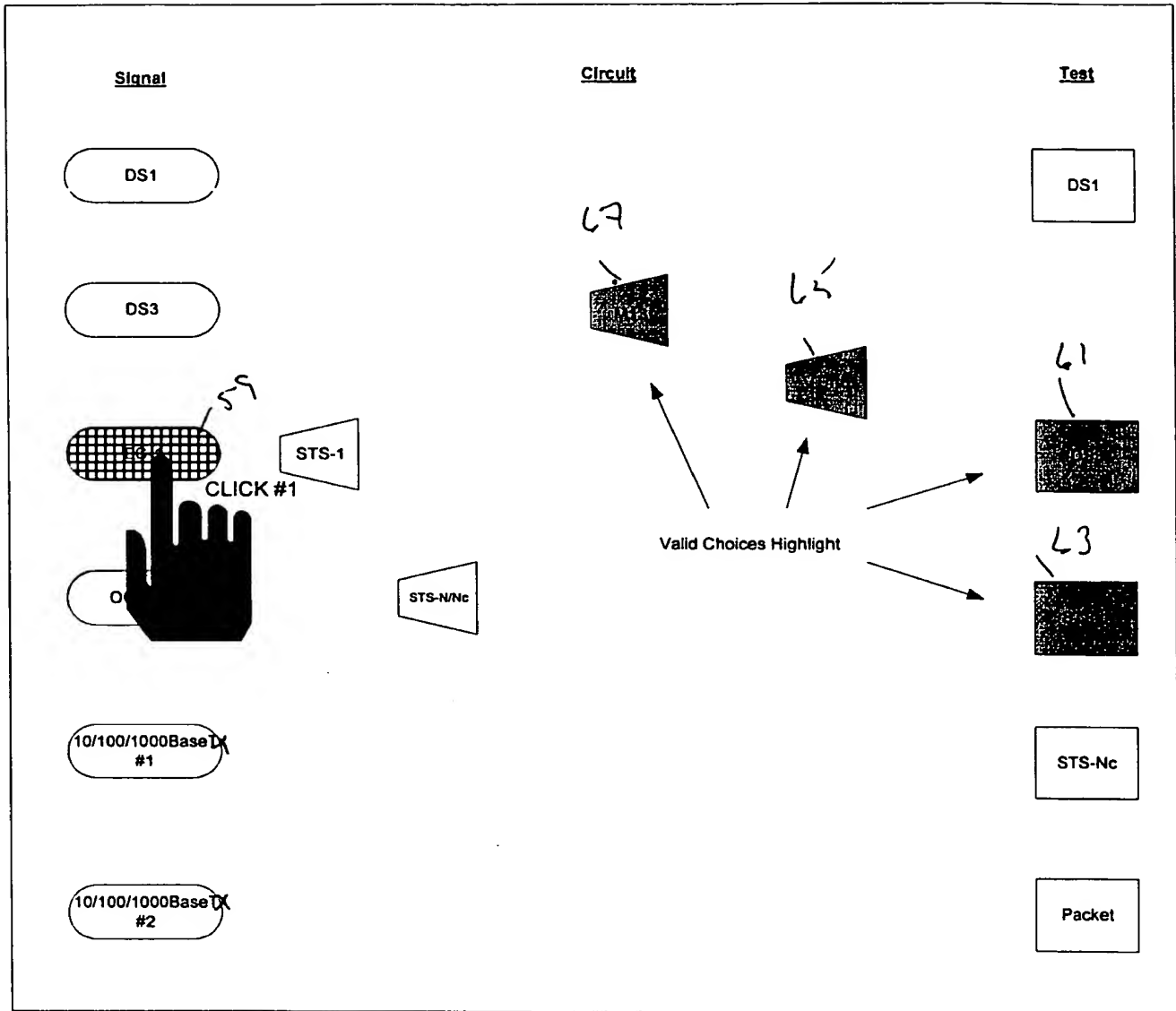
Graphical User Interface

Fig. 5



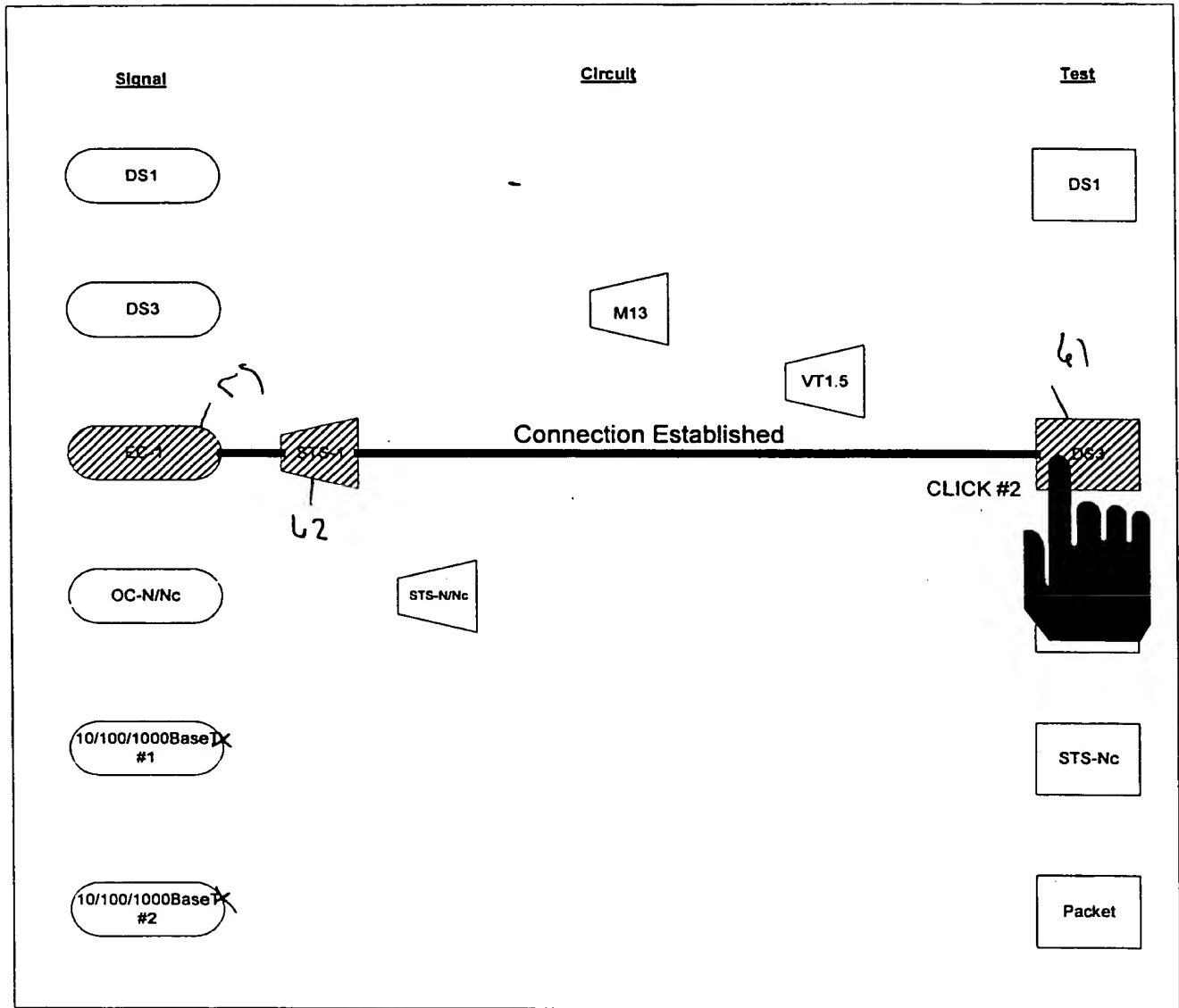
Graphical User Interface

Fig. 6



Graphical User Interface

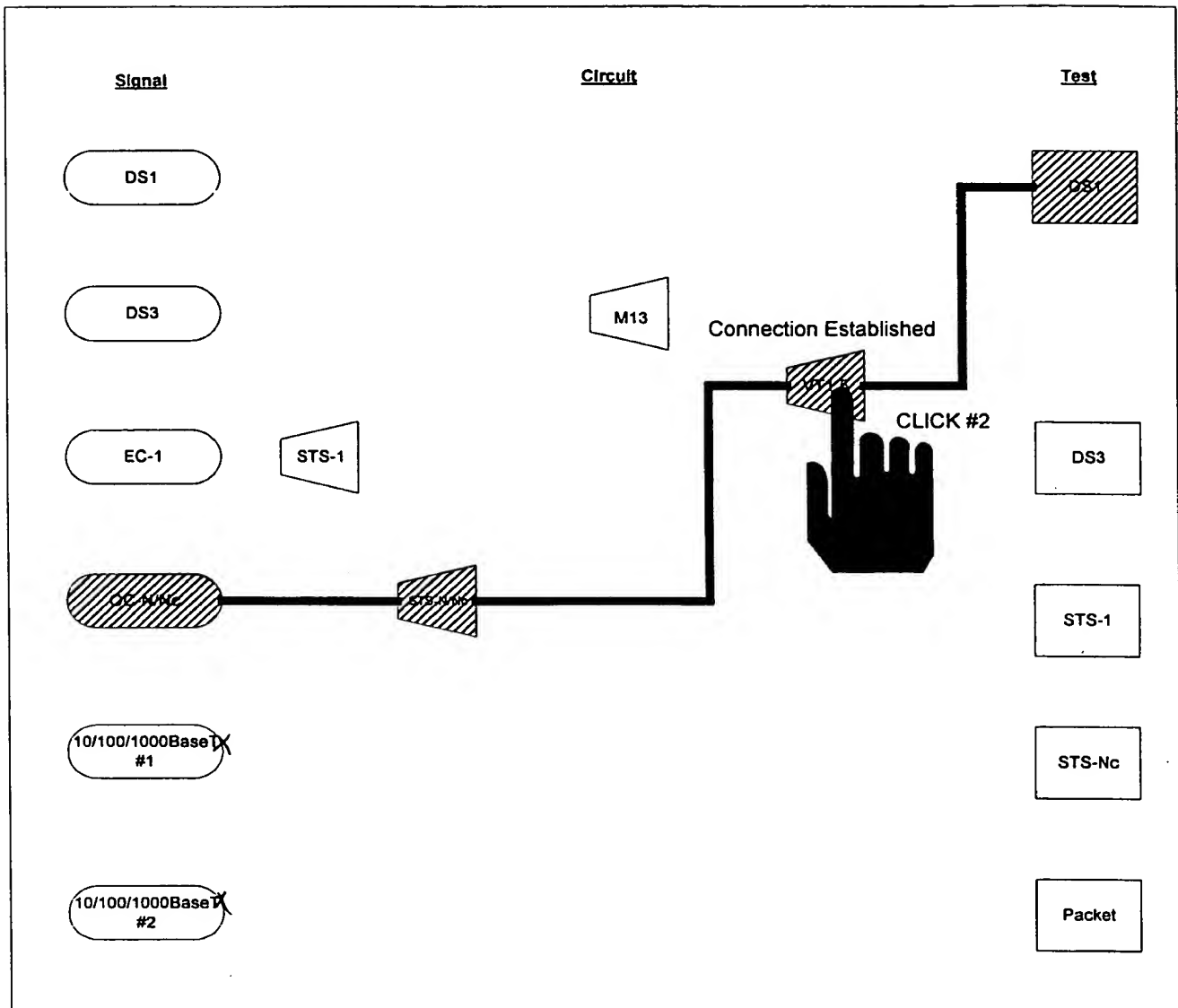
Fig. 7



Graphical User Interface

Fig - 8

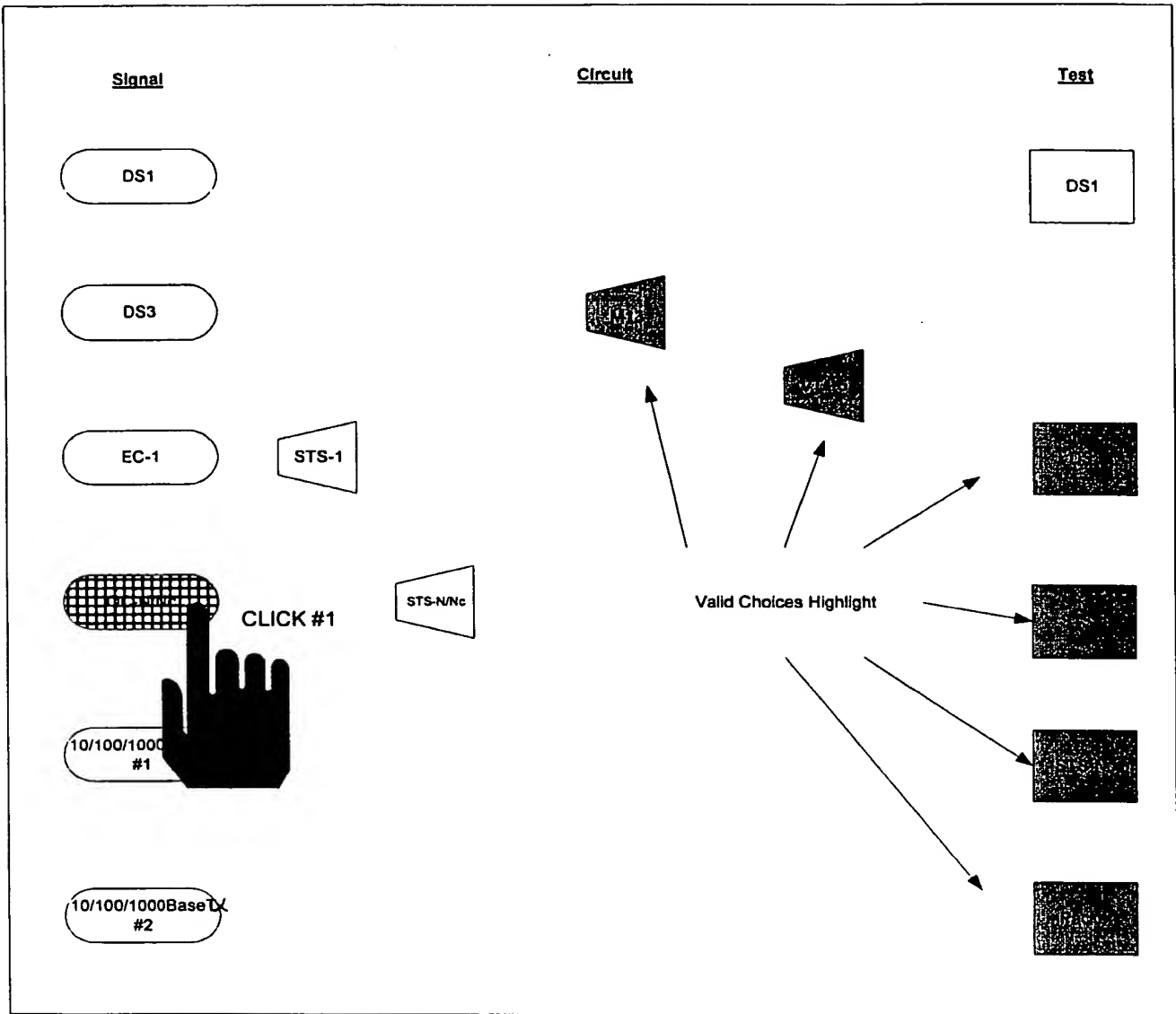




Graphical User Interface

Fig. 9

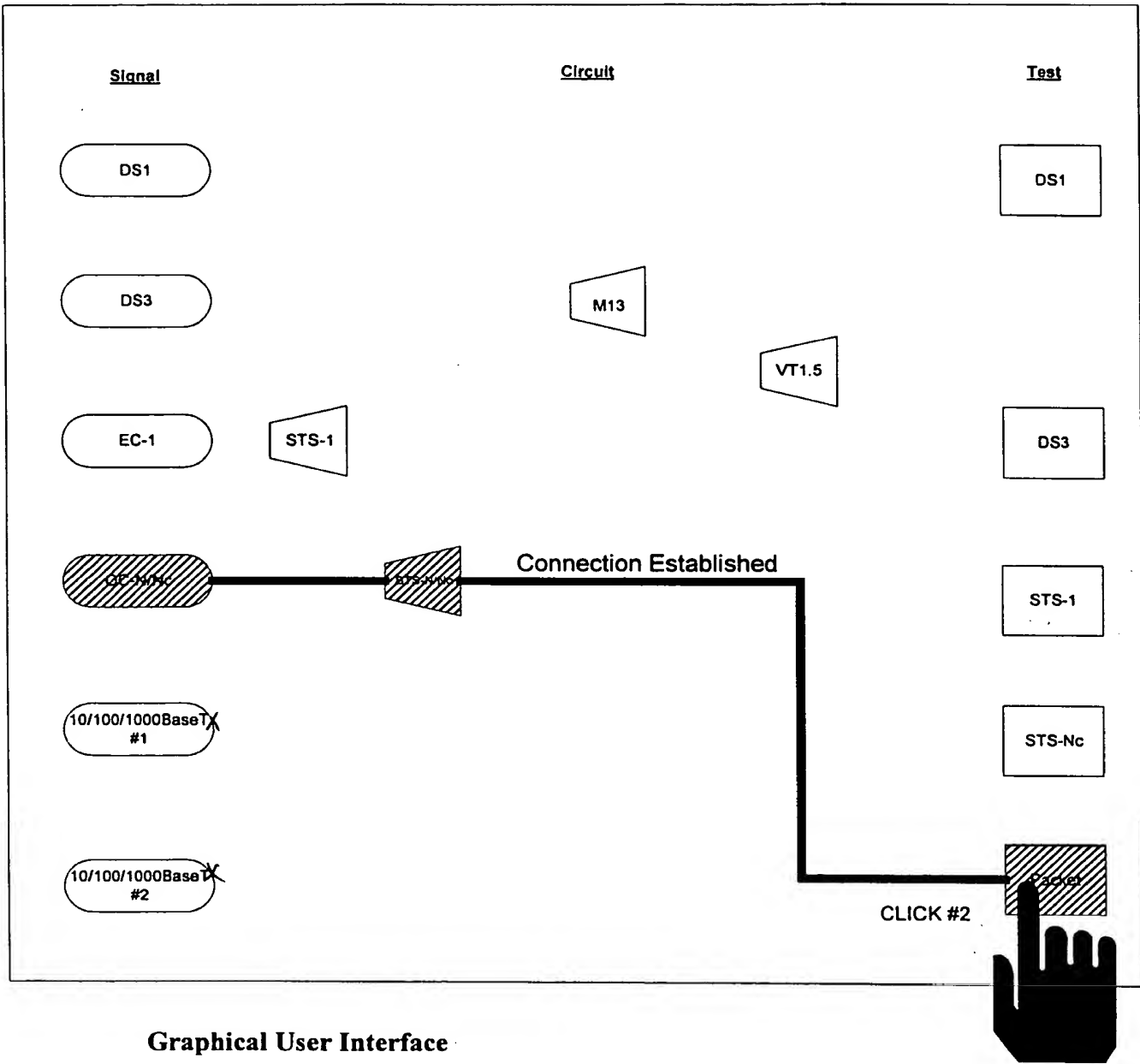
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Graphical User Interface

Fig. 10

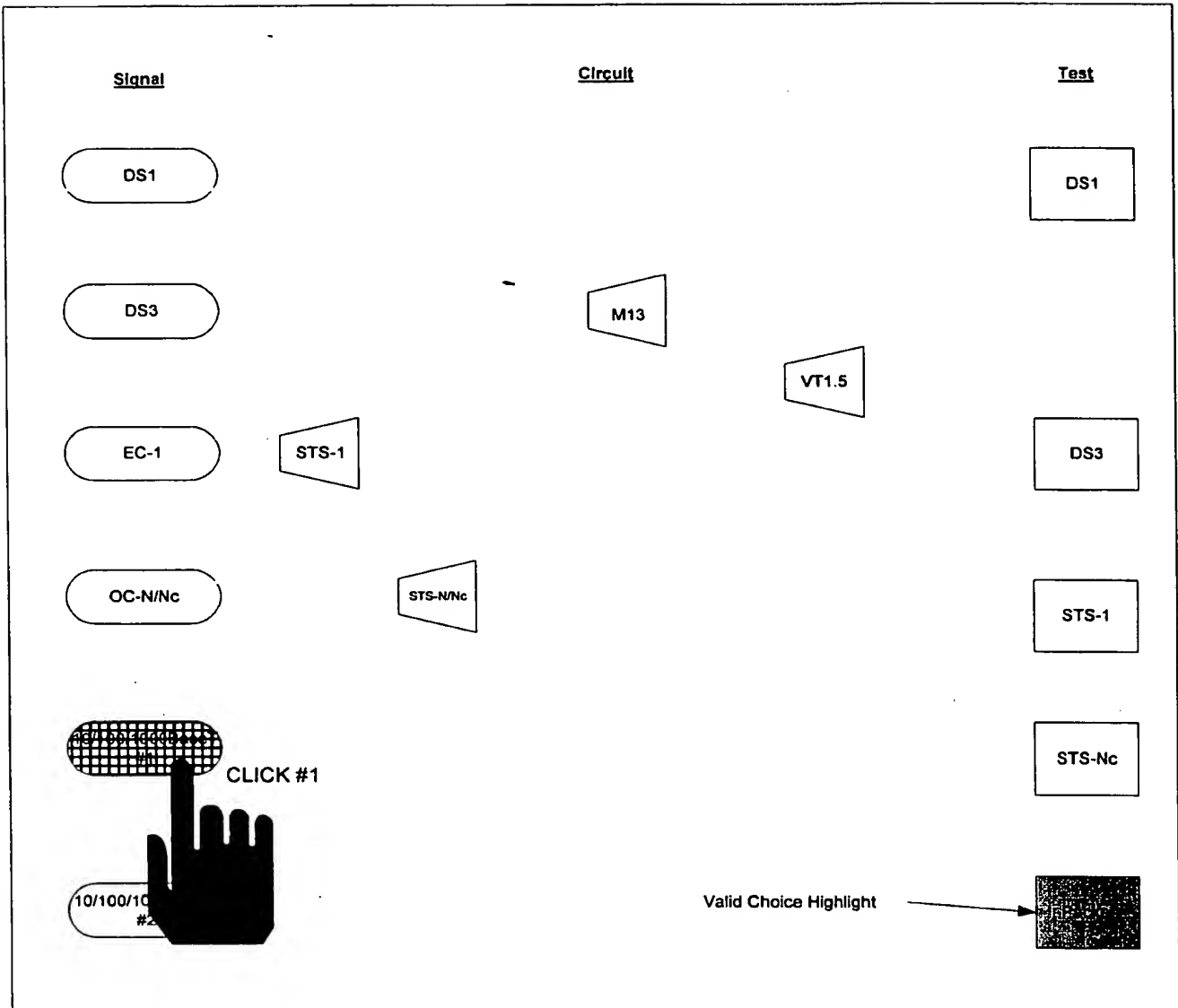
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Graphical User Interface

Fig. 11

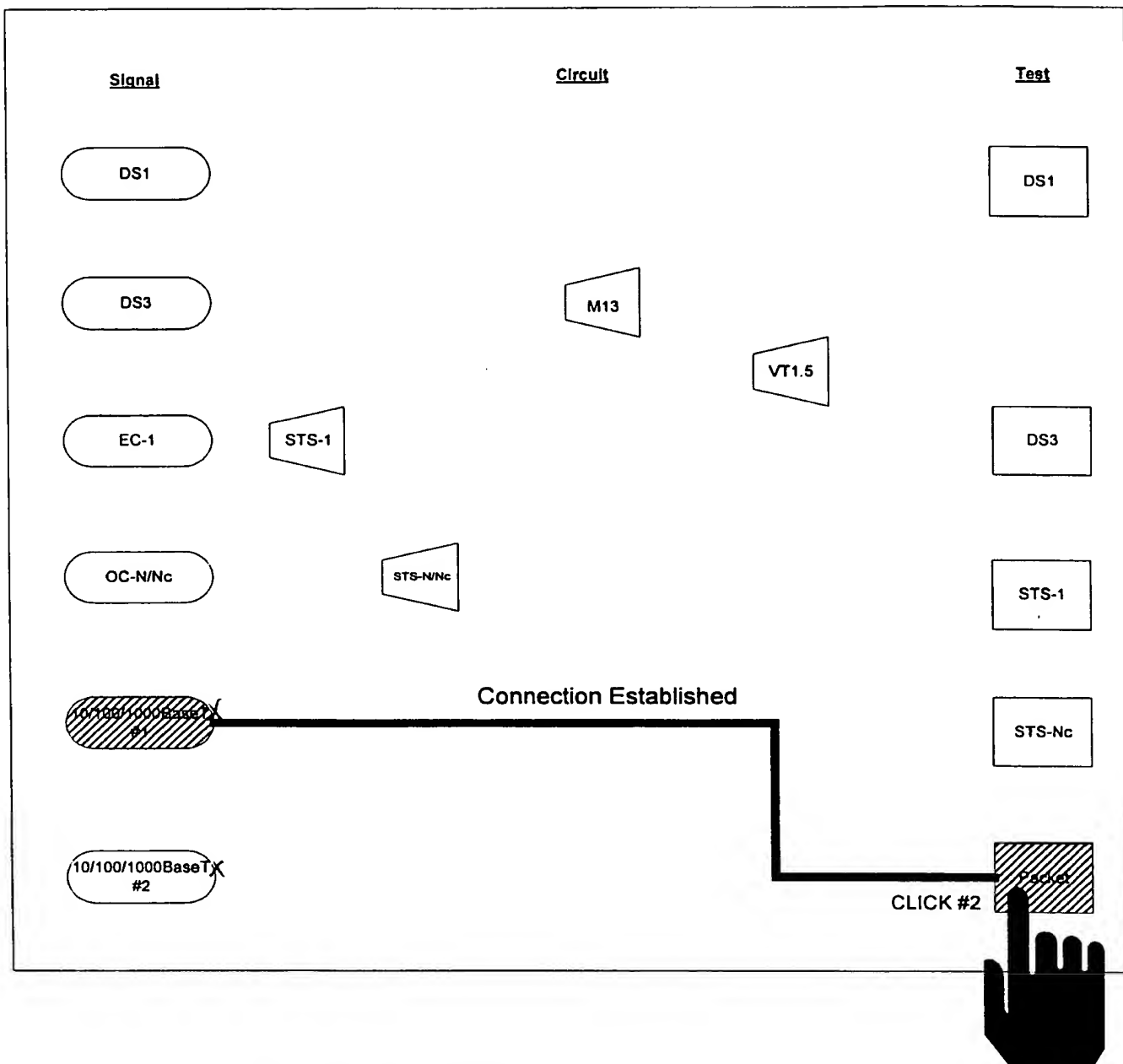
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Graphical User Interface

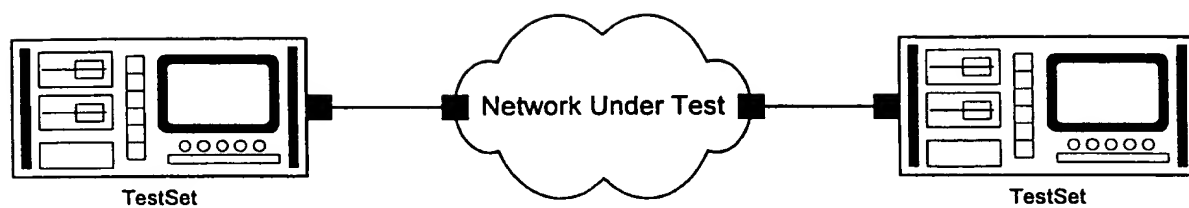
Fig. 12

0055050-56525560



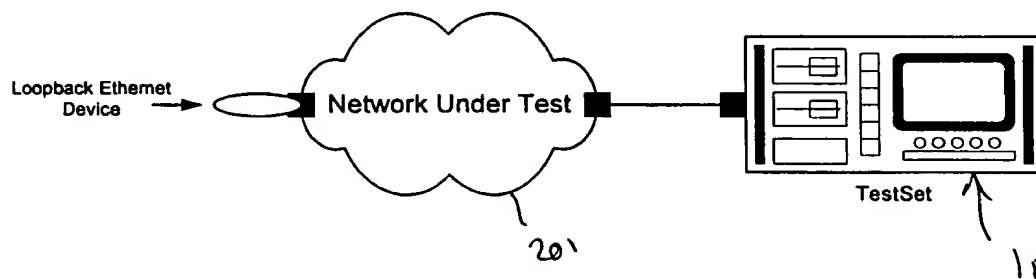
Graphical User Interface

Fig. 13



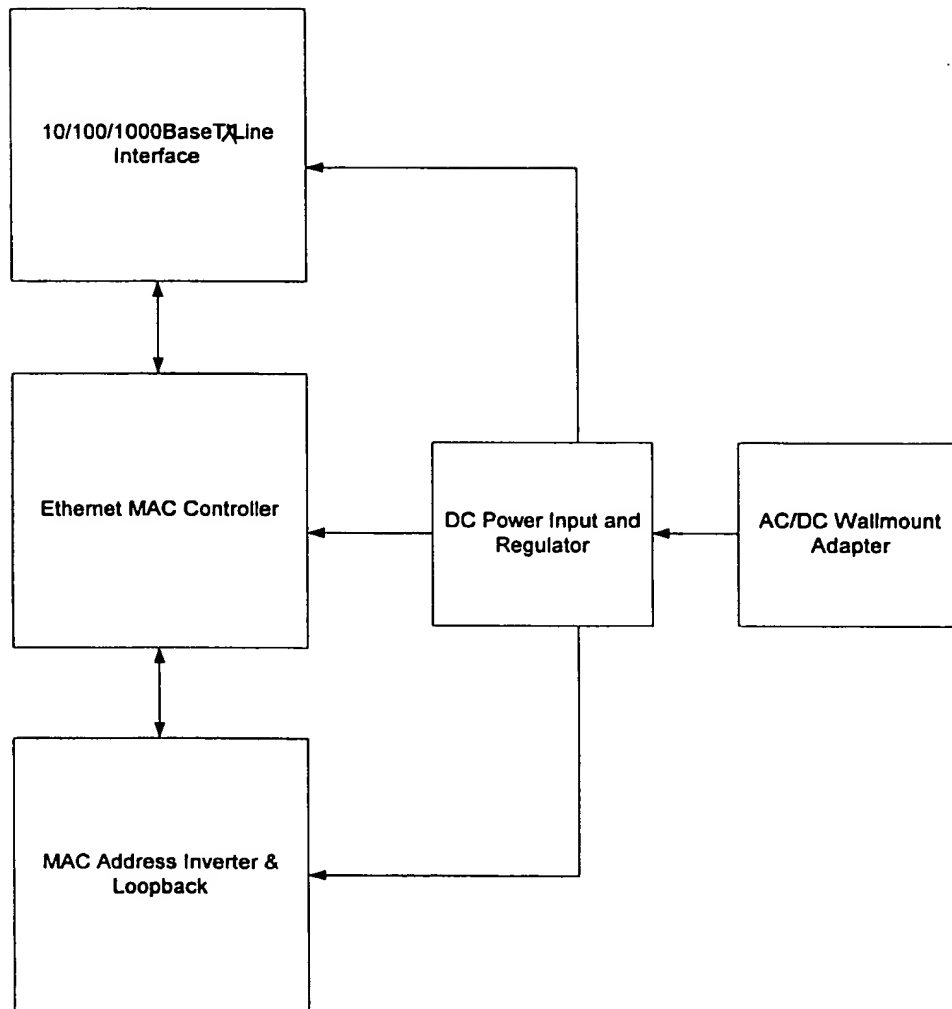
### Communication through Ethernet Link under test

Fig - 14



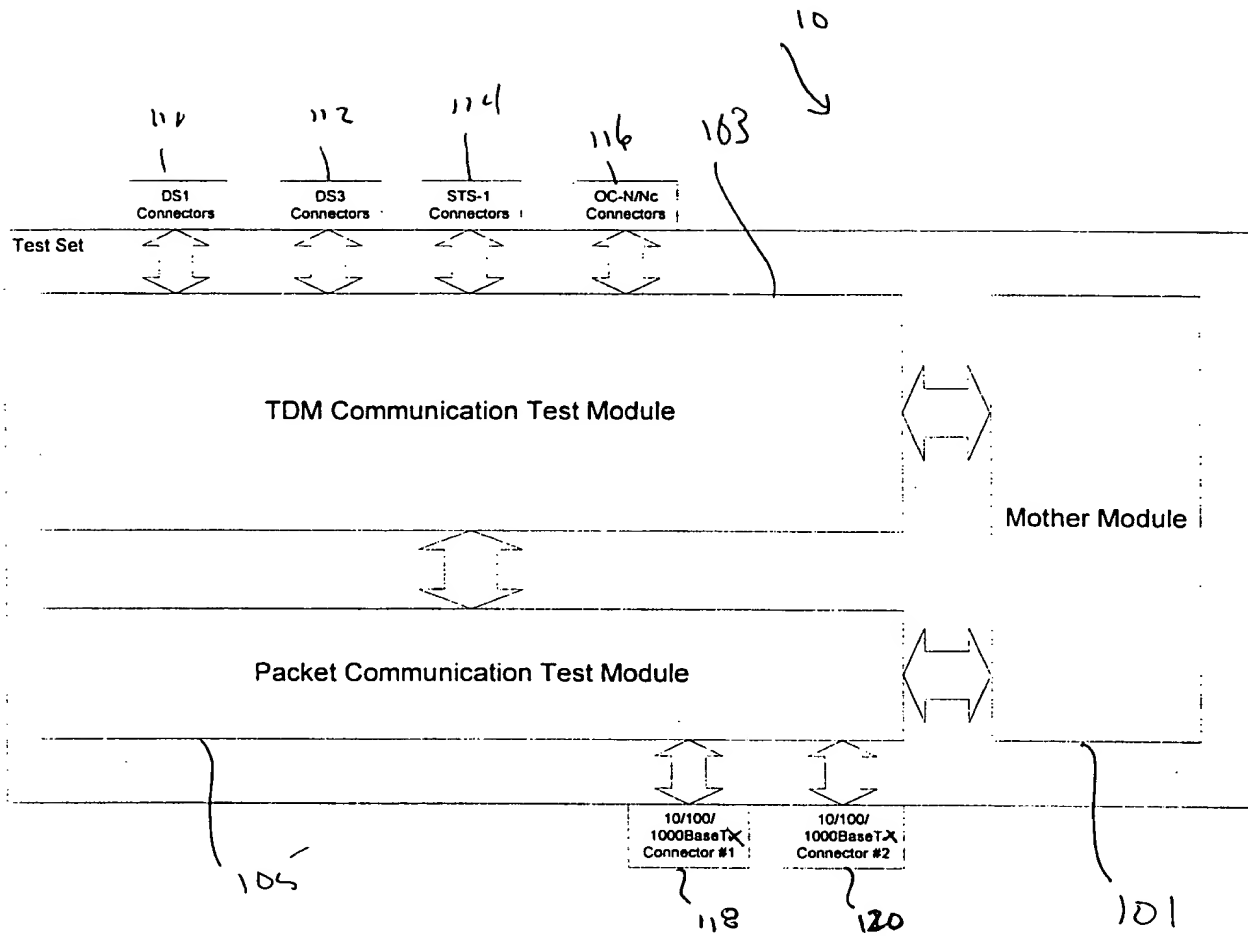
### Method of Test Using an Ethernet loopback Dongle

Fig. 15



Loopback Dongle Architecture

Fig. 16

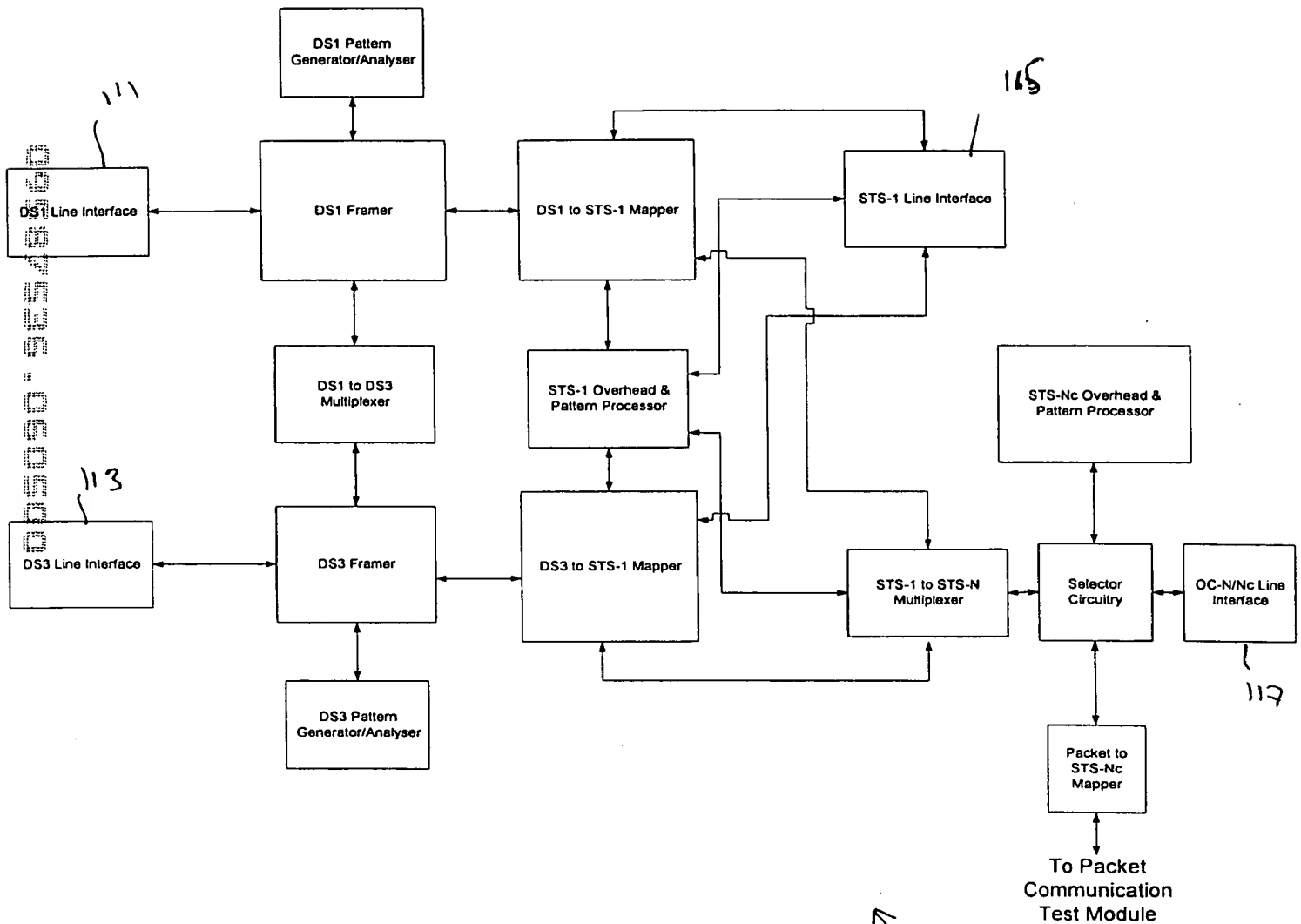


Test Set Internal Architecture

Fig. 17

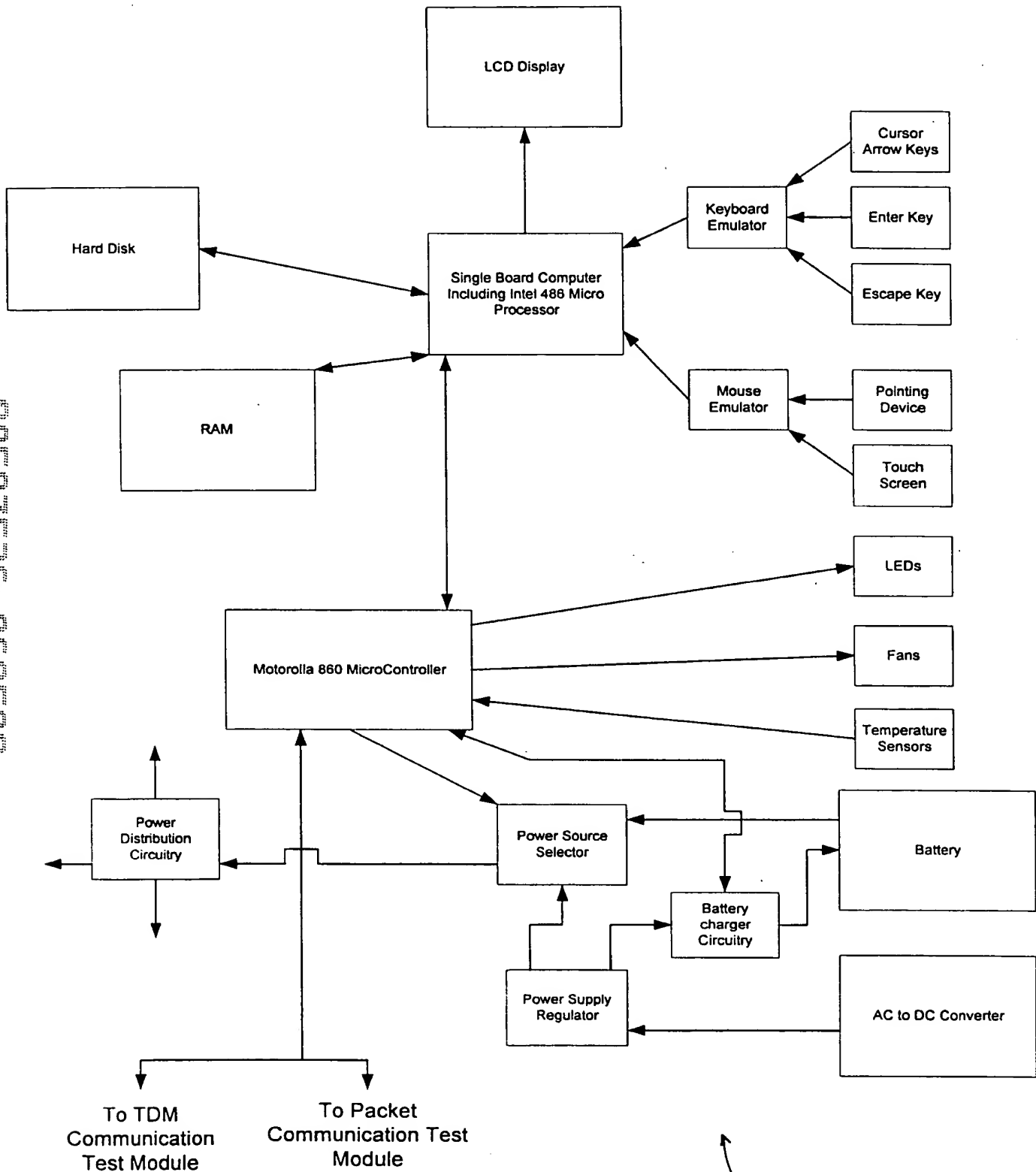
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TDM Communication Test Module

Fig - 18

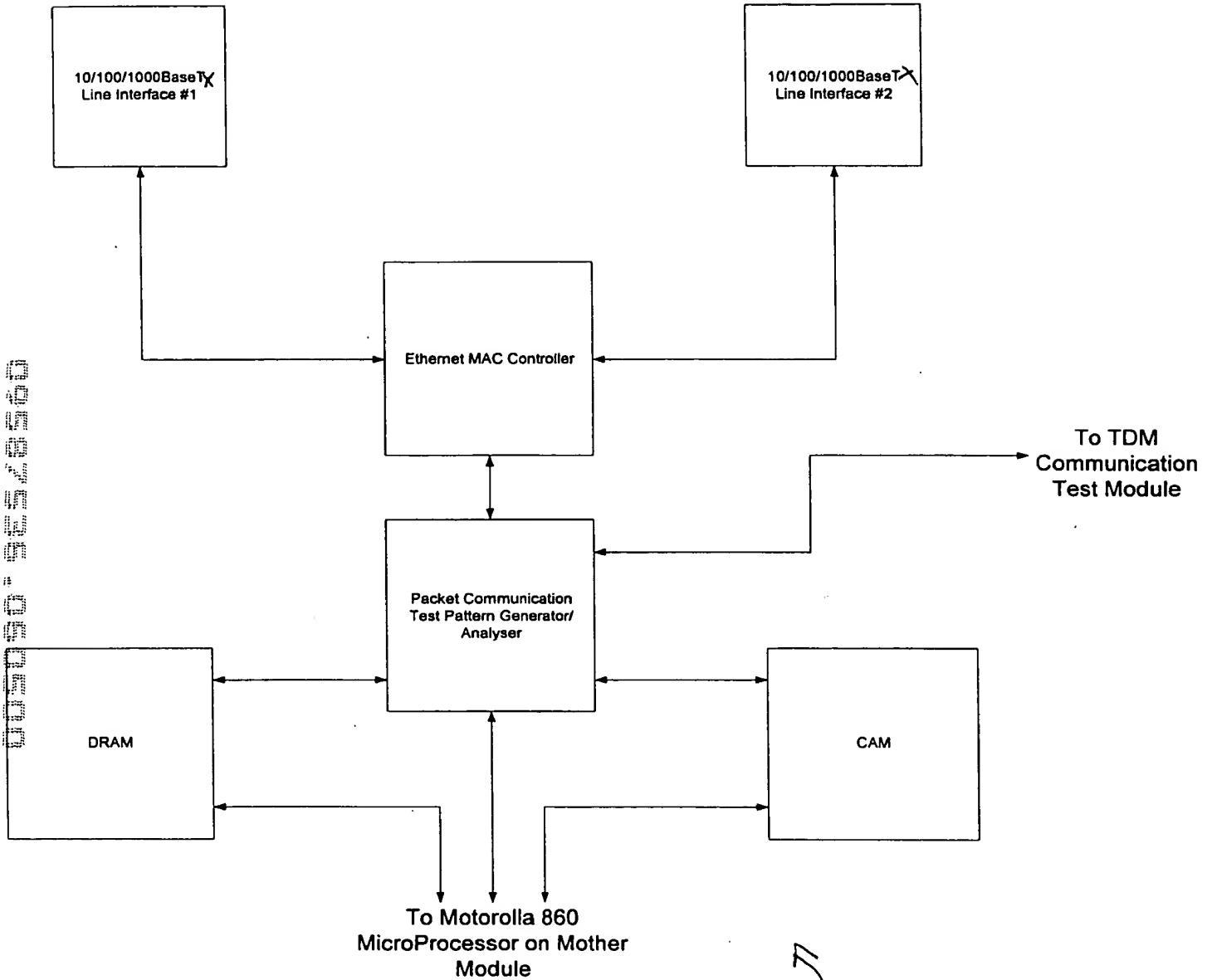


Mother Module

Fig. 19

101

0050336-060500



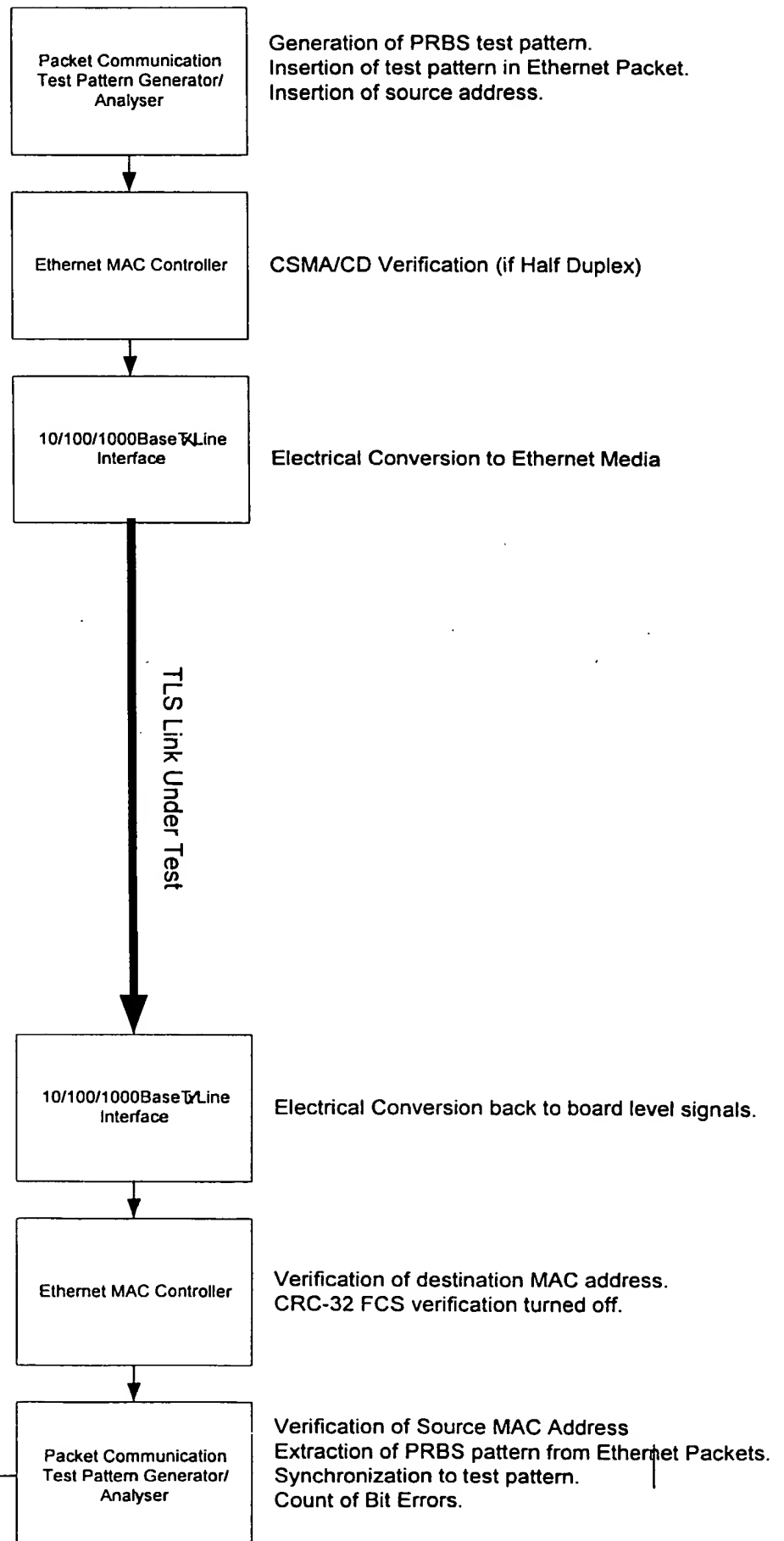
Packet Communication Test Module

Fig. 20

105

Flow Chart of BER test  
method for TLS links  
(showing only one  
direction).

Fig. 21



Computation of  
Bit Error Rate

Motorola 860  
Microprocessor

Packet Communication  
Test Pattern Generator/  
Analyser

Verification of Source MAC Address  
Extraction of PRBS pattern from Ethernet Packets.  
Synchronization to test pattern.  
Count of Bit Errors.

Electrical Conversion back to board level signals.

10/100/1000Base-T Line  
Interface

TLS Link Under Test

Electrical Conversion to Ethernet Media

10/100/1000Base-T Line  
Interface

Ethernet MAC Controller

CSMA/CD Verification (if Half Duplex)

Packet Communication  
Test Pattern Generator/  
Analyser

Generation of PRBS test pattern.  
Insertion of test pattern in Ethernet Packet.  
Insertion of source address.

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